



# **STRATEGIC ENVIRONMENTAL RESEARCH & DEVELOPMENT PROGRAM**

## The Vision

---

*“...propose a Strategic Environmental Research Program...”*

*“...we have an opportunity to redirect this tremendous national resource toward the environmental challenges we face in the 1990’s...”*

***“...facilitate transfer of knowledge gained and technology developed...”***

Sen. Sam Nunn — Senate Floor Speech, June 28,  
1990





# FY 1991 Defense Authorization Act

---

## **Established SERDP**

-  **DoD, DOE and U.S. EPA partnership**

## **Purposes**

-  **Address DoD and DOE environmental concerns through R&D**
-  **Share data collection and analysis capabilities**
-  **Identify and share DoD research technology**
-  **Identify private sector technologies useful to DoD**

## **Organization and Procedures**

-  **Council**
-  **Executive Director**
-  **Scientific Advisory Board**

# SERDP Taxonomy

## ENVIRONMENTAL QUALITY

### CLEANUP

Site Characterization  
and Monitoring

Remediation  
Technologies

Risk Assessment  
Methodologies

### COMPLIANCE

Water

Air

Solid

### POLLUTION PREVENTION

Water

Air

Solid

Modeling and  
Databases

### CONSERVATION

Training/Testing  
Capability

Natural Resource  
Stewardship

Cultural Resource  
Stewardship

# SERDP/ESTCP Combined Program Office

## Executive Director

Bradley Smith

## Technical Director / ESTCP

Jeff Marqusee

## Admin Officer

Brenda Batch

### Prg Mgr for Pollution Prevention

Charles Pellerin

### Prg Mgr for Compliance & Conservation

Robert Holst

### Prg Mgr for Cleanup

Catherine Vogel

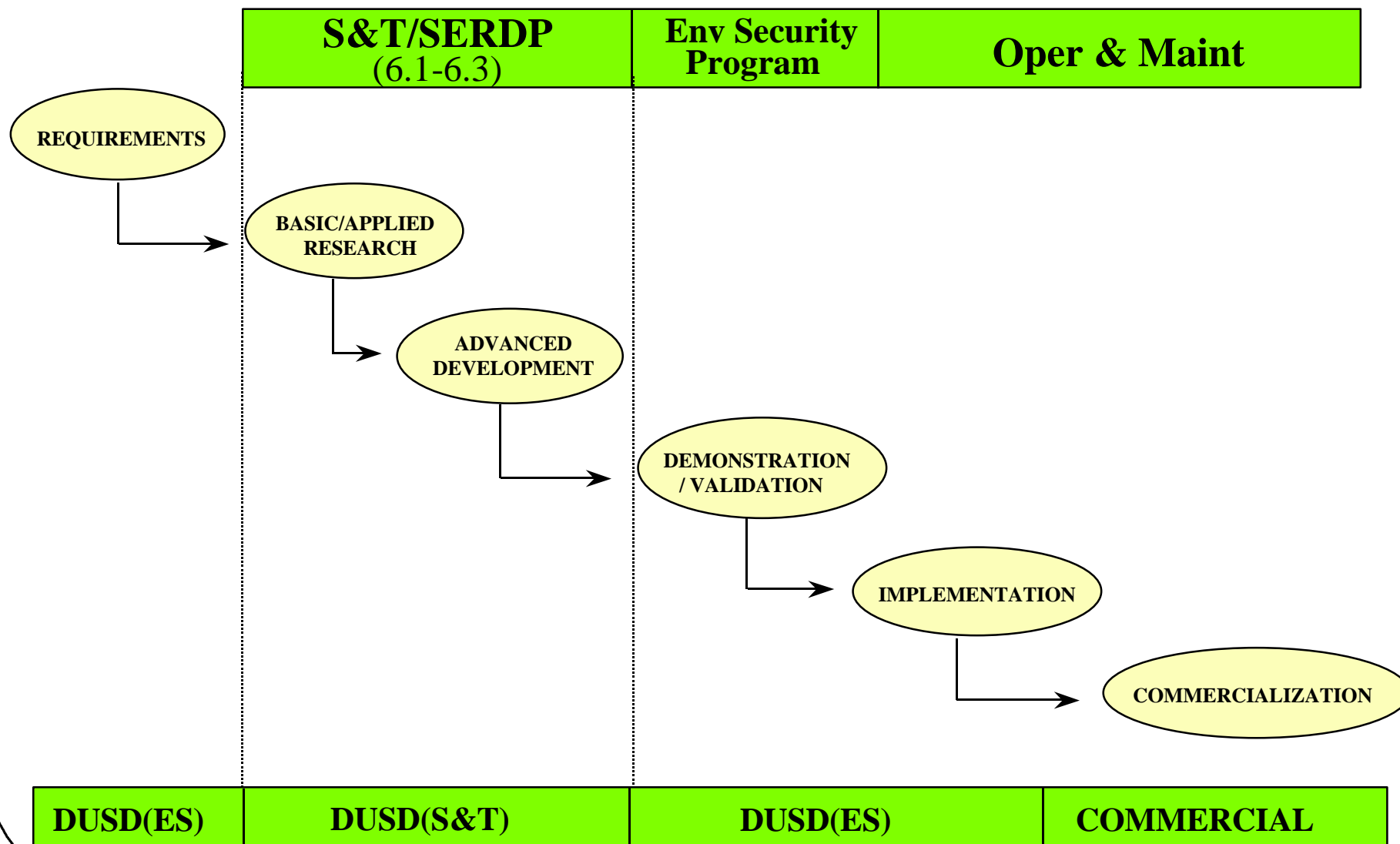
### Acting Prg Mgr for UXO

Matthew Chambers

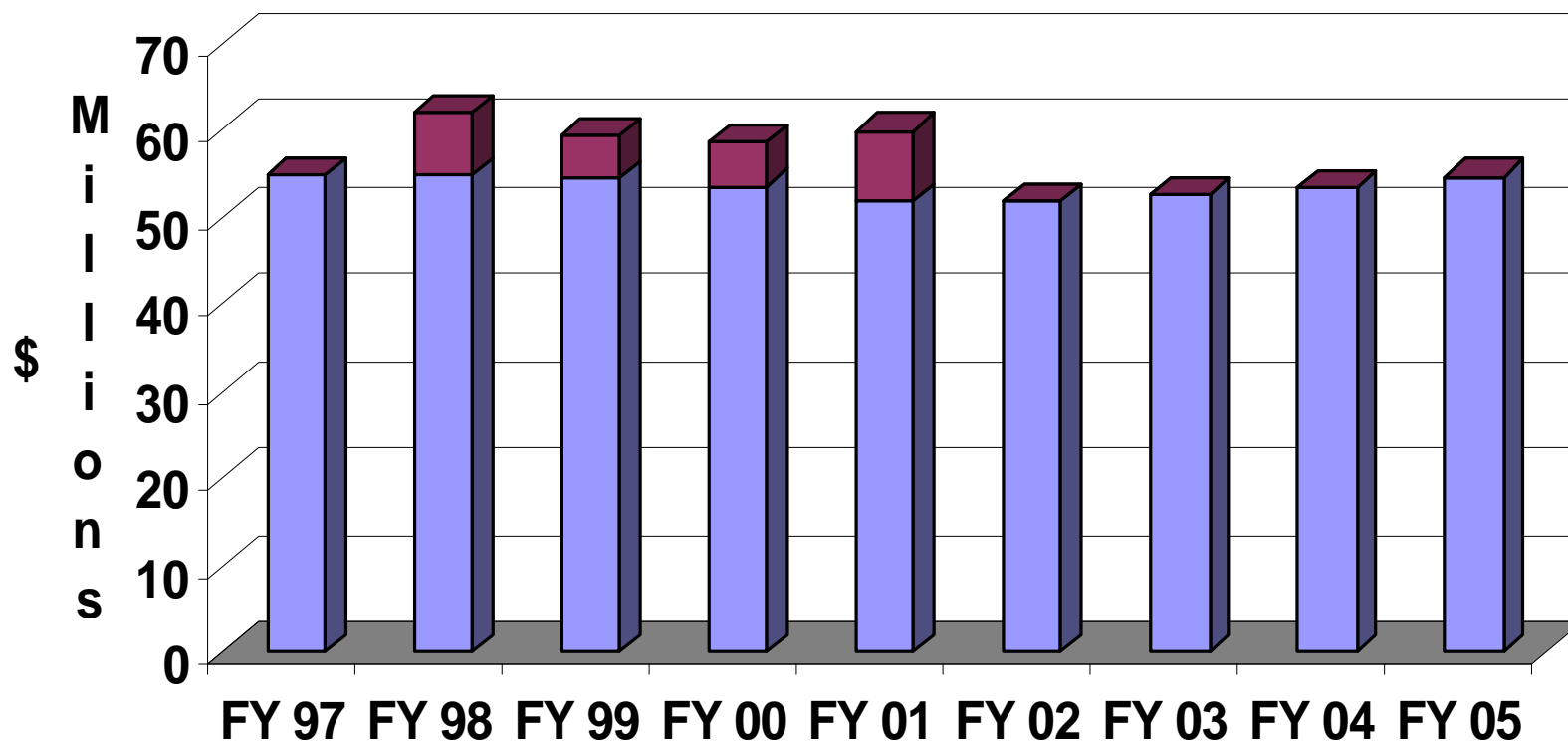
### Program Support

HydroGeoLogic

# Environmental Technology Development Process

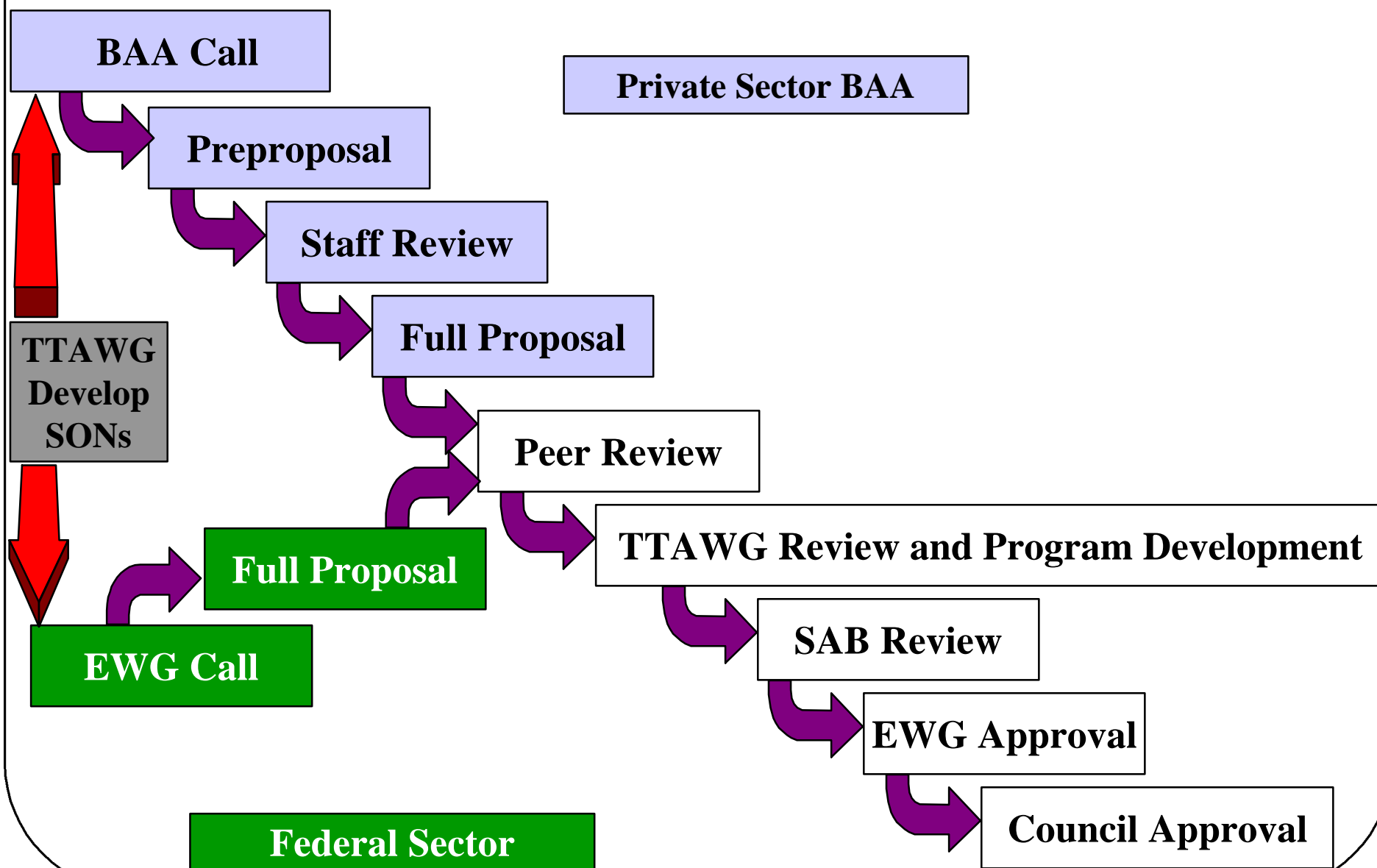


# SERDP Funding (\$ M)



 = Earmarks

# Solicitation Process





# FY 2001 Solicitation

---

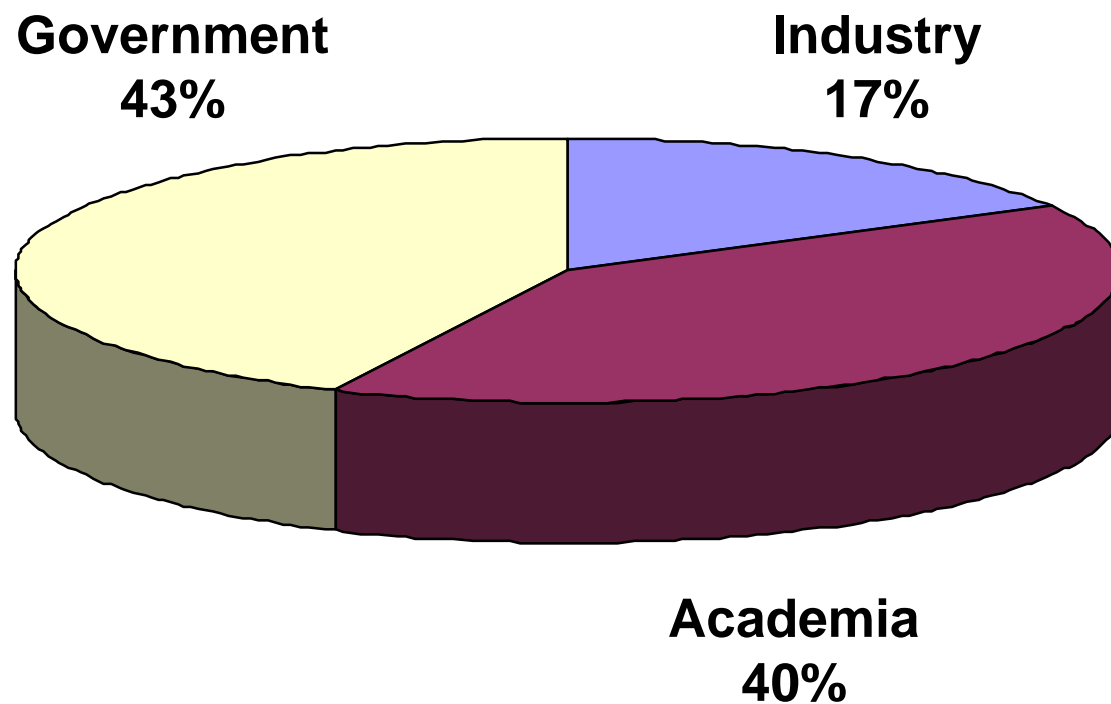
## Private Sector

- 197 Preproposals Submitted
- 83 Full Proposals Requested
- 80 Full Proposals Submitted
- 17 Selected for Funding

## Federal Sector

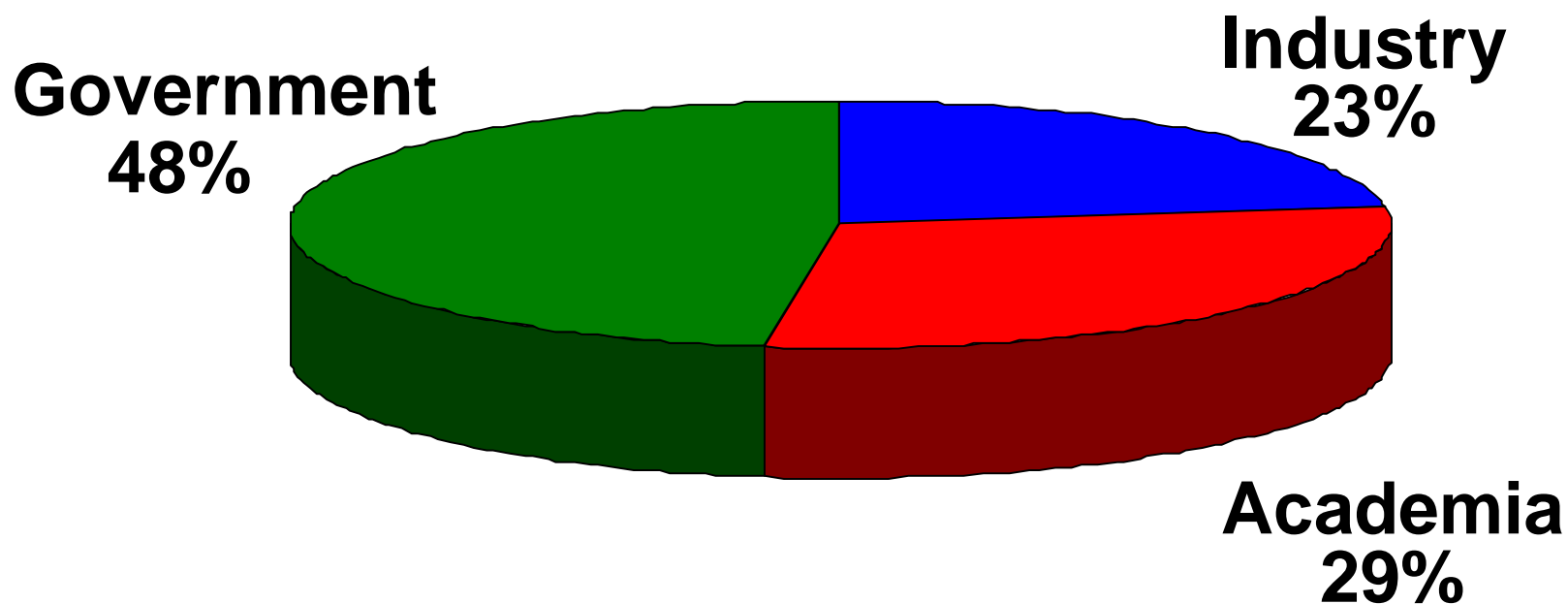
- 81 Full Proposals Submitted
- 13 Selected for Funding

# FY 2001 New Starts

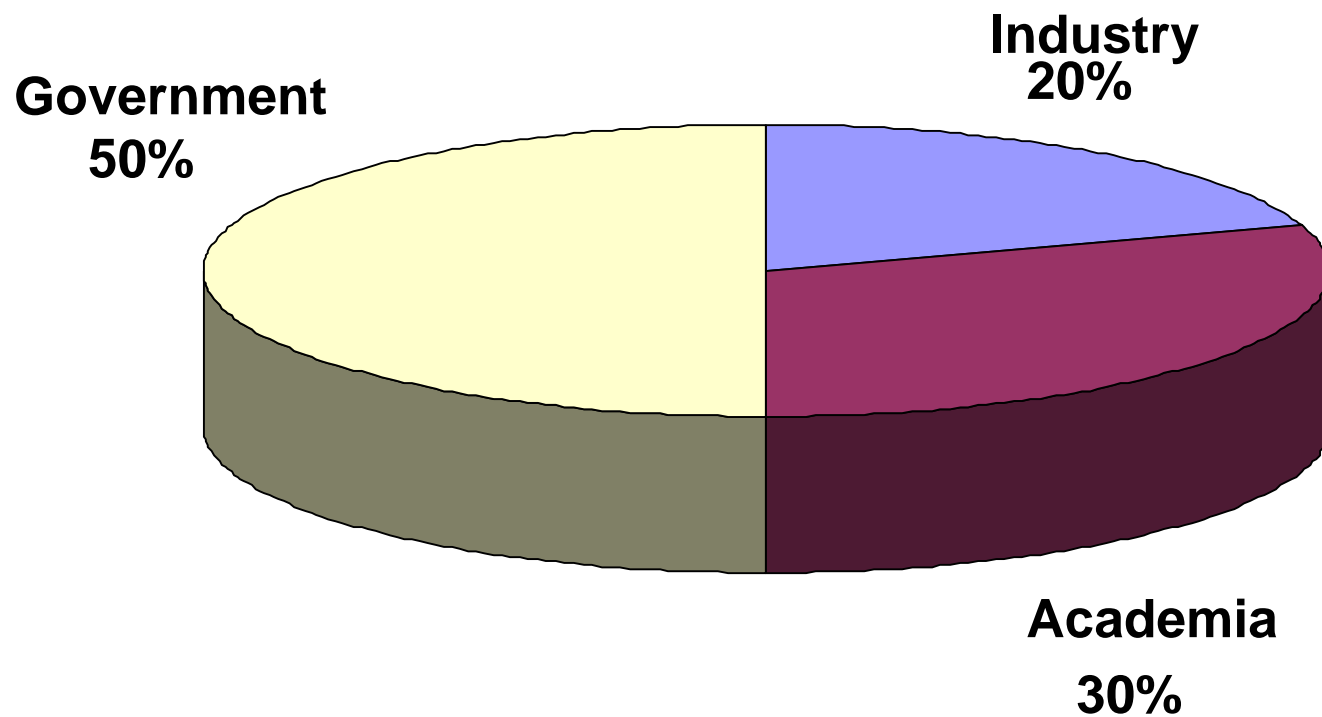


**30 Projects**

# FY 2001 Program Funding By Sector



# FY 2001 SEED Awards



**10 SEED Awards**

# SERDP FY01 Cleanup New Starts

Foam Delivery of Hydrogen for Enhanced Aquifer Contacting and Anaerobic Bioremediation of Chlorinated Solvents	Rice Univ.
Innovative Electrochemical Injection and Mixing Strategies for Stimulation of In Situ Bioremediation (budget may be reduced)	Army ERDC
Development of Permeable Reactive Barriers (PRBs) Using Edible Oils	North Carolina State Univ.
Low-Volume Pulsed Biosparging of Hydrogen for Bioremediation of Chlorinated Solvent Plumes	Groundwater Services, Inc.
In Situ Stabilization of Persistent Organic Contaminants in Marine Sediments	Stanford Univ.
In-Situ Enhancement of Anaerobic Microbial Dechlorination of Polychlorinated Dibenzo-p-dioxins and Dibenzofurans in Marine and Estuarine Sediments	Rutgers Univ.
Pathway Interdiction: A System for Evaluating and Ranking Sediment Contaminant Transport Pathways In Support of In-Place Management (reduced budget)	Navy SPAWAR
Determining the Bioavailability, Toxicity, and Bioaccumulation of Organic Chemicals and Metals for the Development of Eco-SSLs	Oklahoma State Univ.
Bacterial Degradation of DNT and TNT Mixtures	Univ. of Iowa
Microbial degradation of RDX and HMX	BRI-NRC (Canada)
Novel Pathways of Nitroaromatic Metabolism: Hydroxylamine Formation, Reactivity and Potential for Ring Fission for Destruction of TNT	Rice University
Inexpensive Chemiresistor Sensors for Real Time Ground Water Contamination Measurement (SEED)	DOE-SNL
Shear-Horizontal Surface Acoustic Wave (SH-SAW) Chemical Sensors for In Situ Characterization and Monitoring of Trace Organic Contaminants in Aqueous Environments (SEED)	DOE-SNL
Detection and Measurement of Explosives in Groundwater Using In Situ Electrochemical Sensors (SEED)	DOE-PNNL

# SERDP FY01 UXO New Starts

Statistical Methods and Tools for UXO Characterization	DOE-PNNL
Bayesian Approach to UXO Site Characterization with Incorporation of Geophysical Information	DOE-SNL
Spatial Statistical Models and Optimal Survey Design for Rapid Geophysical Characterization of UXO Sites	DOE-ORNL
EM-61-3D Discrimination of UXO Using Empirical, Analytic, and Numerical Models (SEED)	Blackhawk Geometrics
UXO Data Analysis (SEED)	Johns Hopkins Univ.
A Unified Approach to the Processing and Fusion of Time and Frequency Domain EMI Data for UXO Discrimination (SEED)	Northeastern Univ.

# **SERDP FY02 Solicitation Topic Areas**

---

## **Cleanup:**

- **Improved Understanding of In Situ Chemical Oxidation (ISCO)**
- **Impacts of Source Zone Treatment**
- **Alternatives to Microbial Microcosm Studies (SEED)**
- **Alternative Technologies for Long Term Monitoring (SEED)**

## **UXO:**

- **Unexploded Ordnance (UXO) Site Characterization and Remediation Alternatives for Highly Contaminated Sites**
- **Unexploded Ordnance (UXO) Site Characterization for Large Areas of Rough or Vegetated Terrain**
- **Innovative Approaches to Unexploded Ordnance (UXO) Cleanup (SEED)**

# SERDP Home Page

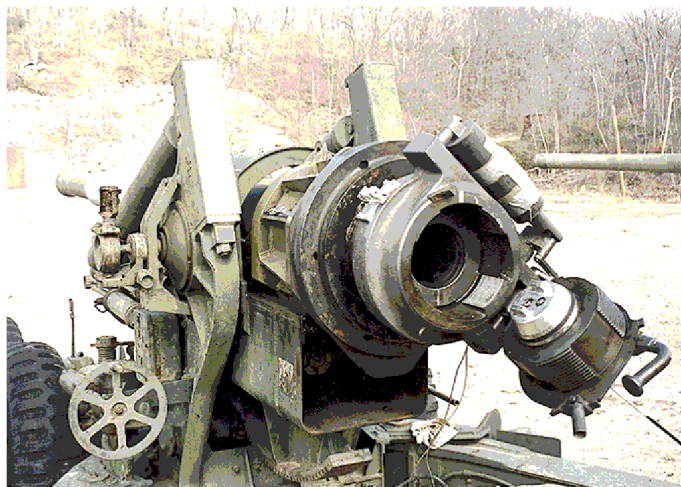
---

- **<http://www.serdp.org>**

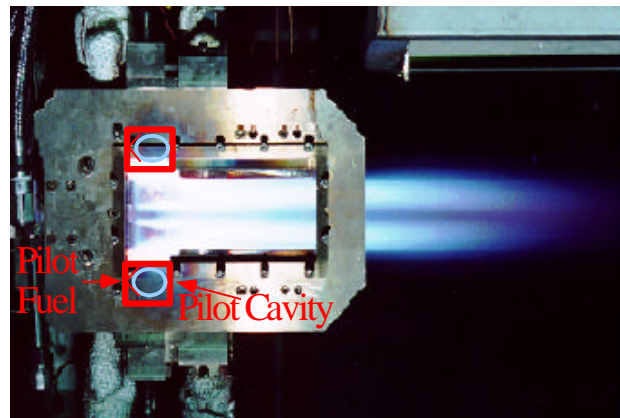


**BACKUP SLIDES**

# Pollution Prevention Technologies



**Laser Ignition**



**Trapped Vortex Combuster**



**Plating Bath Recycling**



**Halon Replacement**

# Compliance Technologies



**Lead-Based Paint Removal**



**Grey & Bilge Water  
Treatment**



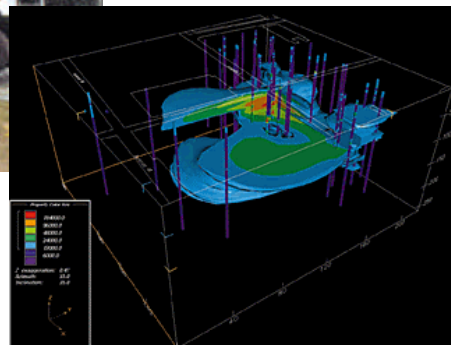
**Emissions Monitoring and Control**



# Cleanup Technologies



**SCAPS**



**Site  
Characterization**



**Soil Remediation  
BIOCELLS**

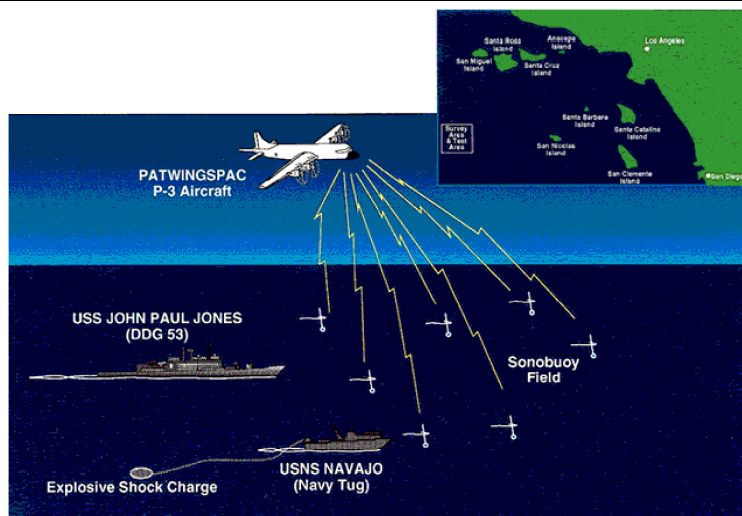


**Groundwater Remediation  
PEROXONE**



**Unexploded Ordnance**

# Conservation Technologies



## Whale Monitoring



## Threatened & Endangered Species

## Restoration of DoD Lands





# Future Directions

